

~~rapidly removing an upper portion of a semiconductor processing fluid present in said bath, while said wafers are in said bath, to break eddy currents holding said surface contaminants at said air/liquid interface.~~

62. (new) The method for removing surface contaminants according to claim 61, wherein said upper portion of said semiconductor processing fluid is removed by a paddle from top of said bath.

63. (new) The method for removing surface contaminants according to claim 61, wherein said upper portion of said semiconductor processing fluid is removed by opening a valve in said bath.

64. (new) The method for removing surface contaminants according to claim 61, wherein said upper portion of said semiconductor processing fluid is removed by hingedly releasing a door located at an upper portion of said bath.

65. (new) The method for removing surface contaminants according to claim 61, wherein said upper portion of said semiconductor processing fluid is removed by sliding a door located at an upper portion of said bath.

66. (new) The method for removing surface contaminants according to claim 61, wherein said upper portion of said semiconductor processing fluid is removed by rapidly removing a wafer boat containing said wafers from said bath.

67. (new) The method for removing surface contaminants according to claim 61, wherein said upper portion of said semiconductor processing fluid is removed by telescopically collapsing sidewalls of a vessel containing said bath.



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68. (new) A method for removing surface contaminants from an air/liquid interface of a semiconductor processing bath for processing semiconductor wafers, said method comprising:

rapidly removing an upper portion of a semiconductor processing fluid present in said bath, while said wafers are in said bath, to break surface tension forces holding said surface contaminants at said air/liquid interface.

69. (new) The method for removing surface contaminants according to claim 68, wherein said upper portion of said semiconductor processing fluid is removed by a paddle from top of said bath.

70. (new) The method for removing surface contaminants according to claim 68, wherein said upper portion of said semiconductor processing fluid is removed by opening a valve in said bath.

71. (new) The method for removing surface contaminants according to claim 68, wherein said upper portion of said semiconductor processing fluid is removed by hingedly releasing a door located at an upper portion of said bath.

Sub E4
72. (new) The method for removing surface contaminants according to claim 68, wherein said upper portion of said semiconductor processing fluid is removed by sliding a door located at an upper portion of said bath.

73. (new) The method for removing surface contaminants according to claim 68, wherein said upper portion of said semiconductor processing fluid is removed by rapidly removing a wafer boat containing said wafers from said bath.

74. (new) The method for removing surface contaminants according to claim 68, wherein said upper portion of said semiconductor processing fluid is removed by telescopically collapsing sidewalls of a vessel containing said bath.

75. (new) A method for reducing the contamination on a semiconductor wafer from a wet etching bath comprising:

processing said semiconductor wafer in said wet etching bath containing an etching fluid;

subsequently breaking eddy currents of said wet etching bath by rapidly removing an upper portion of said etching fluid from said wet etching bath, said act of breaking said eddy currents further releasing surface contaminants which are formed at an air/liquid interface of said wet etching bath and held at said air/liquid interface by said eddy currents; and

subsequently removing said semiconductor wafer from said wet etching bath.

76. (new) A method for reducing the contamination on a semiconductor wafer from a wet etching bath comprising:

processing said semiconductor wafer in said wet etching bath containing an etching fluid;

subsequently breaking surface tension forces of said wet etching bath by rapidly removing an upper portion of said etching fluid from said wet etching bath, said act of breaking said surface tension forces further releasing surface contaminants which are formed at an air/liquid interface of said wet etching bath and held at said air/liquid interface by said eddy currents; and

subsequently removing said semiconductor wafer from said wet etching bath.

77. (new) A method for reducing the contamination on a semiconductor wafer, said method comprising:

processing said semiconductor wafer in a static etching bath containing an etching fluid; and

rapidly removing an upper portion of said etching fluid while said semiconductor wafer is in said static etching bath.--

Please amend claims 1, 5, 7, 11, 12, 14, 15, 17, 25, 44, 52 and 58 as shown in the Replacement Claims:

REPLACEMENT CLAIMS

1. (thrice amended) A method for removing surface contaminants from an air/liquid interface of a semiconductor processing bath for processing semiconductor wafers, said method comprising:

rapidly removing an upper portion of a semiconductor processing fluid present in said bath while said wafers are in said bath to remove said surface contaminants from said air/liquid interface.

5. (amended) The method of removing contaminants from a processing bath for processing semiconductor wafers according to claim 1, wherein said semiconductor processing bath is an etching bath.

7. (thrice amended) A method for reducing the contamination on a semiconductor wafer from a wet etching bath comprising:

processing said semiconductor wafer in said wet etching bath containing an etching fluid;

subsequently rapidly removing an upper portion of said etching fluid from said wet etching bath to remove surface contaminants from an air/liquid interface of said wet etching bath while retaining said semiconductor wafer in said wet etching bath; and

subsequently removing said semiconductor wafer from said wet etching bath.

11. (thrice amended) A method for removing surface contaminants from an air/liquid interface of a semiconductor processing bath for processing semiconductor wafers, said method comprising rapidly removing an upper portion of a semiconductor

processing fluid present in said bath, while said wafers are in said bath, by opening a valve in said bath to remove said surface contaminants from said air/liquid interface.

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12. (thrice amended) A method for removing surface contaminants from an air/liquid interface of a semiconductor processing bath for processing semiconductor wafers, said method comprising rapidly removing an upper portion of a semiconductor processing fluid present in said bath, while said wafers are in said bath, by hingedly releasing a door located at an upper portion of said bath to remove said surface contaminants from said air/liquid interface.

14. (thrice amended) A method for removing surface contaminants from an air/liquid interface of a semiconductor processing bath for processing semiconductor wafers, said method comprising rapidly removing an upper portion of a semiconductor processing fluid present in said bath, while said wafers are in said bath, by rapidly removing a wafer boat containing said semiconductor wafer from said bath to remove said surface contaminants from said air/liquid interface.

15. (thrice amended) A method for removing surface contaminants from an air/liquid interface of a semiconductor processing bath for processing semiconductor wafers, said method comprising rapidly removing an upper portion of a semiconductor processing fluid present in said bath, while said wafers are in said bath, by telescopically collapsing sidewalls of a vessel containing said bath to remove said surface contaminants from said air/liquid interface.

17. (thrice amended) A method for etching a semiconductor wafer, said method comprising:

placing an etching fluid into a wet etching vessel;

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placing said semiconductor wafer in said etching fluid;
contacting said semiconductor wafer with said etching fluid for a predetermined time;
rapidly removing a portion of said etching fluid from the upper surface of said wet etching vessel while keeping said semiconductor wafer immersed in said etching fluid;
and
removing said semiconductor wafer from said etching fluid.

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25. (thrice amended) A method for etching a semiconductor wafer, said method comprising:
placing an etching fluid into a wet etching vessel;
placing said semiconductor wafer in said etching fluid;
contacting said semiconductor wafer with said etching fluid for a predetermined time; and
rapidly removing a portion of said etching fluid from the upper surface of said wet etching vessel by telescopically collapsing sidewalls of said wet etching vessel.

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44. (thrice amended) A method for reducing the contaminants on a silicon wafer during a wet etching process, said method comprising:
immersing a wafer boat in an etching vessel having an etching fluid therein for a sufficient time to etch said silicon wafer; and

rapidly removing said wafer boat from said etching vessel to remove surface contaminants residing on the upper surface of said etching fluid by causing said etching fluid to spill out of said vessel.

52. (amended) A method for removing surface contaminants from a semiconductor processing bath for processing semiconductor wafers, said method comprising removing an upper portion of a semiconductor processing fluid present in said bath, while said wafers are in said bath, by sliding a door located at an upper portion of said bath.

58. (amended) A method for etching a semiconductor wafer, said method comprising:

placing an etching fluid into a wet etching vessel;

placing said semiconductor wafer in said etching fluid;

contacting said semiconductor wafer with said etching fluid for a predetermined time; and

removing a portion of said etching fluid from the upper surface of said wet etching vessel by sliding a door located at an upper portion of said wet etching vessel.